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Introduction

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> "The community knows both more and less than the individual."
> Bertrand Russell, 1948

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1   Introduction

The defining feature of an ever-expanding knowledge society is our ability to perceive the world around us from a perspective of ignorance. Knowledge continuously reminds us of the limits to what we know and what we do not know. Ignorance can only be extinguished by knowledge and learning. From time immemorial, human beings learn to acquire new knowledge and share it for survival and to deal with the process of change. Learning assists us in building knowledge through observation, experience, knowing facts and repetitive tasks. The most effective learning comes from direct experience (Senge, 1993). For this reason alone, the institutions of learning were established in early human civilisations. Learning, together with new knowledge, continuously shapes the process of change.

The theme of this journal, Learning and Change, is appropriately selected to reflect the centre stage that learning takes in a modern knowledge society. *The International Journal of Learning and Change* is dedicated to exploring intrinsic connections, inter-relationships and the methods and processes of learning and its impact on change. The journal places a special emphasis on the creation of knowledge and the implementation of scientific and technological innovation for change. The aims of the journal are to deepen knowledge and understanding of individual and organisational learning and to manage the process of change that takes place due to scientific and technological advances. The objective of the journal is to develop, promote and deepen our understanding of learning in technological, social and economic settings. The journal promotes the link between theory and practice of individual and organisational learning and the management of knowledge.

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2   Why learning?

Management literature has had a somewhat lukewarm interest in the subject of learning (Contu and Willmott, 2003). With growing importance placed upon managing knowledge and the process of change, learning, both individual and organisational, has surfaced as an important topic in management literature, with most companies using learning for corporate performance and competitive behaviour. Learning provides us with new meanings and ways of interpreting and sharing useful knowledge. When learning is not institutionalised, ignorance prevails – no matter how much information can be made available to individuals and organisations.

Learning is also an enabler. It enhances the ability of individuals and organisations to assimilate information and knowledge for effective action. Learning begins with the acquisition of new information. However, new information alone is insufficient for the process of learning. It consists of a process, content and attitude that facilitate the renewal of individual and organisational knowledge systems. In addition, learning requires organised information, teaching skills and communication; mechanisms that connect people. All these precipitate the transfer of knowledge from knower to recipient.

3   Individuals who learn

Learning takes place in the minds of individuals. People learn on their own and in their own space and time. Individual learning is primarily a cognitive process that systematises the procedural memory (Cohen and Bacdayan, 1994). Learning combines and assimilates various types of knowledge through critical examination of different sources of information. Bruner (1990) has suggested two different modes of cognition: the information or paradigmatic mode and the narrative mode. Information allows us to examine the reality and truth, while the narrative allows the discourse of learning though speech and listening. We make distinctions between various forms of learning: how, why and what. New technologies and new procedures make it necessary for all organisations to empower their employees with different ways of knowing and experiencing. An individual's thirst for knowledge induces this learning process, which often happens at the work-place learning, although it can also be self motivated learning or learning by interaction and discourse of learning. Ironically, most individuals in organisations are preoccupied with meeting urgent business requirements and, consequently, learning receives low priority.

Learning is also a way of bridging the knowledge gap between those who know and those who do not know. Individuals' curiosity to know and find out new things, propels them into continuous learning. Individuals begin to observe, imitate and respond to internal and external environments that contribute to a reservoir of knowledge. The desire to learn is socially constructed and is embedded in different cultures. As is evident in many developed societies, building a learning culture is essential for empowering knowledge and achieving economic and social independence.
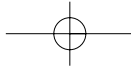
4   Learning as a cycle

In all forms of learning, there needs to be some sort of structure, providing definite procedures for verification, benchmarking and feedback, action and reflection. The process of learning is also determined by the techniques and methods that are available for learner and teacher. The advent of the internet has changed the way information is assimilated and distributed. Other new technologies have also facilitated greater interactions between the learner and the teacher.

The processes and methods of learning have been discussed by several scholars. According to Kolb (1984), learning is an interactive process with action and reflection. Kolb's learning cycle helps us understand how individuals learn through a four-stage model, moving from the more abstract to the more concrete by doing, reflecting, connecting and testing. Experiential learning by trial and error is about repositioning our capacity to know how reliable our actions and responses are and how then to judge them accordingly. What we learn provides us cumulative capabilities to act in anticipation or respond to a particular set of problems. Cultures of learning and knowing are central to all learning processes. Those who claim to know everything often fail to learn. Learning is not static but cyclical – especially with such rapid renewals of knowledge.

5   Learning cultures

Learning is a social process that involves collective action of individuals, groups and organisations. Knowledge without learning has limited positive impacts on organisations' growth and development. The challenge for managers in organisations is the acquisition of appropriate knowledge in time and space. Since knowledge grows and changes, learning requires constant renewal of learners' knowledge. The characteristics of learning inherently display cultural values and norms. Learning is a culture in itself, which is characterised by its values and rules of engagement. Like culture, learning undergoes continuous change and renewal.

A culture of learning needs to be fostered in all institutions undergoing change and growth. A supportive culture of learning helps to foster knowledge and learning processes in organisations. In early life, we begin to learn by observing and studying the various phenomena of the world around us and, consequently, our immediate environment plays an important context for learning. Humans' capacity to absorb and process information, synthesise knowledge, memorise events and facts, and make decisions are important conditions for learning. Our research suggests that every organisation has to devote considerable time to teaching and facilitating learning for new members of staff – no matter how experienced and qualified they may be. Organisational learning is not merely a routine but a systematic process that is embedded in organisational routines.

While an individual's learning by doing and using (Vincenti, 1990) is a powerful mode of learning, it need be noted however that learning is not confined solely to the individual's learning. Learning also institutes a culture for knowledge exchange. It can be harnessed as an organisation. Firms have gained productivity improvement through continuous learning that can be explained in a learning curve (Arrow, 1962). In all aspects

of learning, the norms and values of learning need to be upheld and embedded in an organisation's culture. Some organisations have displayed well developed learning cultures where staff are encouraged to pursue life-long learning.

6   Learning gaps

Learning is a key process that facilitates a firm's knowledge, which can be developed and extended to impact upon its business routines (Zollo and Winter, 2002). Different firms display varying degrees of capability to assimilate experiences and develop knowledge competencies. These capabilities are also recognised as a firm's absorptive capacity – that is, a firm's capacity to value, assimilate and apply new knowledge. A firm learns how to recognise its capabilities, identify knowledge gaps and develop an awareness of processes to acquire new knowledge. Learning assists a firm to overcome knowledge gaps and acquire new capabilities by renewal of knowledge. Knowledge acquired in the past helps to build future knowledge. Consequently, learning is an important step toward building the absorptive capacity of individuals and organisations. Learning enables the sharing of 'in head' or tacit knowledge. Several studies have attested that the organisational knowledge system is dynamic and it grows when it is shared (Quinn et al., 1996). However, not all knowledge can be shared freely. Because of a strong emphasis on outcome-orientated knowledge production, the degree to which knowledge is shared is decreasing. To put it simply, a learning gap is the difference between new and existing knowledge.

Learning Gap = New Knowledge − Existing Knowledge

7   Ability to learn well

Learning at an advanced stage of life consists of formal processes such as theory building, formulating hypotheses, experimentation, and verification of reliability. Individuals have limited cognitive capacities to gather and process information (Simon, 1982). Firms' and individuals' absorptive capacities are an important consideration for learning. No amount of information or knowledge can be useful unless such knowledge and information can be effectively absorbed and integrated into the business routines processes of organisations. The ability to experiment and learn by experimentation (Nelson, 2003) is an integral part of the organisational learning processes.

It is important to ensure that when people learn, they absorb knowledge and develop the capacity to use the knowledge gained. In some cases, managers pay scant attention to learning and knowledge absorption processes. A firm's absorptive capacity also depends on its prior cumulated knowledge (Cohen and Levinthal, 1990). Learning assists the internalisation of both new and externally situated knowledge and competencies.

The process of change is often difficult and careful management is required to deal with the consequences of the change process. With change comes a raft of new requirements to learn and unlearn (Liyanage, 2002). People's belief systems and familiar knowledge systems will have to be shaken during this process. Very often there is an inherent resistance to change and, as a result, the ability and desire to learn. Knowledge
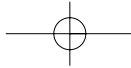
synthesis through learning involves the acquisition of skills, developing technological expertise, and knowing how and why some processes will take place. Learning by engagement and action is a powerful mode of internalising knowledge. The ability to learn and acquire new knowledge grows when there is an effective action (Burton-Jones, 1999).

8   Learning strategies

Ideally, learning should not be haphazard and we must ask whether learning should be serendipitous or strategically driven. The strategies for developing learning and knowledge are important as these two components unite organisational competencies and business routines through various types of interactions, knowledge configurations and the ability to implement and deal with necessary change management processes. For effective learning to take place, organisations need to develop a strategic approach to learning, which will then develop as organisational knowledge grows. Such strategies should be put in place early in order to improve organisational action through better management of knowledge and understanding (Garvin, 2000). Learning strategies are also useful to legitimise the truth and reliability of knowledge through discourse.

9   Learning processes

The learning processes that examine and cross examine various facts and information are also known as dialectic or discursive traditions of learning. Some of these processes support continuous learning whereas others involve incremental learning through the accumulation of various amounts of knowledge and information. The changes to the rate and direction of knowledge are, therefore, influenced by such learning processes.

Learning is induced by changing the various components of knowledge. In this way, knowledge typologies can vary according to the information and data (explicit forms) available, thereby allowing a variety of learning possibilities. Learning also allows the translation of tacit knowledge or experiential knowledge into related business routines. For example, an apprentice working with a master craftsman learns by observing (with or without interaction) and imitating behaviour through trial and error. Learning can, therefore, be seen as the progressive unlocking of the tacit components of knowledge and the internalisation of such knowledge.

Indeed, knowledge tends to be reinforced as it grows. It continuously feeds and enriches our understanding and the intricate connections of the human mind and its internal and external relations. Today, modern science and technology form an important foundation for reliable knowledge that has contributed to human progress. Such knowledge is special, in the sense that it has unravelled many mysteries of human life. The composition of our cells, the interrelationship of our organs, the working of the human mind, the functions of the human brain and our consciousness all constitute a massive body of knowledge. This knowledge has now challenged the way we generate, disseminate and utilise all forms of knowledge and the learning processes that govern economic and social change.

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Learning is often associated with the need for change or the use of a particular technology. Consequently, learning needs to take place with the transfer of technology (Crossan and Inkpen, 1995). The evidence from our recent studies suggests that learning was strong among the business units of some firms, especially in cases where knowledge was passed on from one project to another, and also in instances where collective action was needed for specific knowledge applications.

10   Two perspectives on learning

The role of learning in the knowledge-creating process can be analysed from two perspectives: situated learning and organisational learning. Situated learning is based on the notion that learning is located within immediate work practices or day-to-day work. The concept of organisational learning refers to the continuous process of how an organisation renews or changes its knowledge base. The latter will involve changes in the structure of the organisation that can then change the knowledge base. Both these perspectives consider knowledge to be embedded within individuals. Individuals are also responsible for collective learning, creating a connection between individuals and social groups, and artefacts (Edmondson, 2002; Winter, 2000). Knowledge is often situated within certain social and organisational contexts and embodied in certain practices (Lave and Wenger, 1990). Situated learning regards the learner as an active player in the process of learning, which is subjected to power and control by external stimuli.

Learning is the process that untangles such knowledge and provides a common knowledge base that can be utilised, shared and further developed to deal with the change process. However, the intrinsic value of learning and knowledge depends on a firm's capacity to recognise existing knowledge, in conjunction with the ability to absorb knowledge that is new to the firm. The situated organisational learning perspective lends support to the continuous transformation of knowledge. As knowledge grows and learning becomes an important activity, it is necessary to form knowledge interchanges for negotiations, interactions and collaborations (Millar et al., 1997).

Different firms exhibit varying capacities to absorb and value knowledge through disparate processes of learning. Such learning processes build the organisational capacity and the speed with which knowledge can be packaged and repackaged within an organisation. Similarities in business routines and knowledge bases of firms do determine the way learning processes are organised within firms (Lane and Lubatkin, 1998). Even similar companies, with closely related businesses, will adopt different knowledge acquisition and learning processes. This is because methods of knowledge construction invariably differ with individual approaches. Two firms, for example, dealing with the development of cardiac pumps, may adopt entirely different routines that differentiate knowledge and learning processes. Indeed, different individuals in different societies will have different styles and different cultures of learning. While some cultures may focus on a learner-centred approach to learning, others lean toward a teacher-centred approach.

Knowledge created through all these learning processes is embedded in both the minds of individual actors and the actors' environment, which becomes structured as a result of ongoing business and technological advances and activities (Nidumolu et al.,

2001). The interplay between situated and organisational learning allows the mixing and aligning of contextual knowledge within a firm's internal structures. As in many pharmaceutical firms, science and technology platforms are created for the development of an array of drugs. Learning takes place to cope with new technology platforms and to deal with varied conditions. In such situations, where both situational and organisational knowledge co-exist, a complex interplay between individuals, work units and the overall business processes comes into action.

Several intervening processes between learning and knowledge creation and absorption have been identified (Boden, 1990). They include the identification of the stock and structure of knowledge available to the organisation, so that knowledge gaps can be recognised and remedied through learning; the decontextualisation of knowledge into explicit forms in order to facilitate learning; creating knowledge interchanges by a multitude of users; and the synthesis, adaptation and transformation of knowledge to generate novel and creative uses.

11   Learning and collaboration

Firms may also learn through deliberate mechanisms such as collaborations, partnerships and alliances (Inkpen, 1998), which frequently bring together new perspectives and experiences. Learning in such dynamic and fluid environments facilitates continuous interactions and learning. However, in this process, various organisational cultures and their institutional and cultural contexts need to be taken into account (Lundvall, 1992). Consequently, it has been argued that learning is socially embedded.

Irrespective of the situated or organisational components of knowledge, however, learning allows the transition from generalised capability building to specific capability building. Knowledge interchanges operate by transmitting contextually situated knowledge into a firm's internal structures of knowledge through specific learning processes. Learning among organisations (intra-organisational learning) often takes place as a particular knowledge system reaches maturity. Conversely, firms with nascent technology are often reluctant to share knowledge and thereby engage in learning activities.

12   Reliability of knowledge and learning

Learning allows us to reflect on the reliability of knowledge and recognise that not all knowledge is, or will remain, useful (Russell, 1948). The effort devoted to learning certain things may be in fact be rendered irrelevant as time passes. This might mean that learning needs to change with time, by discarding old knowledge and acquiring new knowledge in order to become relevant. The acquisition of knowledge through learning may, therefore, be irrelevant or unnecessary to understanding the reality of how things operate and under what circumstances. Subsequently, we need to make a distinction between 'useless' and 'useful' knowledge. This may require unlearning things that we purport to know and placing various cognitive processes accumulated through learning under constant review and evaluation.

13   Ostensive knowledge and learning

Communicating a particular knowledge is possible using processes other than words. Ostensive knowledge refers to defining something by demonstration and can be defined as 'any process by which a person can be taught to understand the meaning of a word or what one wants to say'.

In fact, many organisations producing knowledge are struggling to convey meanings ostensively. To do this well it is necessary to understand the meaning of certain functions in an organisation. Very often, even if we can communicate using a common language, we fail to communicate the real meaning of what we want to say.

Knowledge and learning are at the centre of change. As we prepare to embrace the modern concepts of a knowledge society, and move leaps and bounds ahead with technological changes underpinning advances in knowledge, we also encounter greater uncertainty. We are expected to adjust to changes that impact on our jobs, satisfy customers and increase corporate profits, and keep the shareholders happy. These are not easy tasks.

Learning, however, requires a degree of faith. We need to learn to know and acquire skills that are useful. We learn in order to accomplish certain tasks. Aristotle's disciple, Thomas Aquinas, said, 'Without faith there is no knowledge.' Learning is also intrinsically linked to faith. The institution of learning is, therefore, like knowledge, bounded by responsibility, ethics and the norms of learning. There is an intrinsic connection between the teacher and the student.

Knowing and verifying what we know, and finding out what we do not know, are all part of the learning process and contribute to a vast knowledge reservoir. Some knowledge is more commercially useful than other knowledge where modern corporations are formed to perform services and produce consumer goods. In the process of the acquisition of knowledge and learning, language and communication are vital elements that connect the two. Language is a conduit that connects different knowledge reservoirs. Such connections are not simply formed.

Learning assists us in making informed decisions. Our mental capability to process information, verbalise and interpret all elements of knowledge is also bound by our experiences. During knowledge-sharing or transmission processes, not only do we lose a great deal of knowledge but we also interpret some information according to what we perceive; as Michael Polyani (1967) says: 'We know more than we can tell.' Such knowledge is deeply associated with action.

The focus of this special issue is to cover the concept of 'managing success' within organisations. It is one thing to achieve success but another to maintain it. Several papers have discussed the process of managing success through interactions, alliances and knowledge exploitation as means of achieving success. Several papers have alluded to differing approaches adopted by firms and nations in dealing with continuous growth and success in the application of a learning centred approach to innovation. Knowledge production and transfer modes are presented as a steering mechanism for dealing with rapidly changing educational structures. The commodification of knowledge has been a major challenge in recent years that has direct ramifications on both the university educational system and attempts to maintain a balance between basic and applied research effort.

Management ability to sustain competitiveness has also been explored using corporate parenting strategies. In addition, this issue brings forward industry experiences in managing success through innovation capability development and continuous improvement. These papers have discussed a firm's ability to use all forms of knowledge and integrate learning processes for continuous improvement. In all organisations, learning has to be directed and structured adequately.

Several papers in this issue make valuable contributions to theories of learning. These papers, focussing on the ontologies of learning and organisational learning styles have contributed to our understanding of learning processes, current operating systems, future operational needs and methods of harvesting knowledge and information for managing the process of change.

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